What is claimed is:

1. A polynucleotide comprising an endogenous variant of the nucleotide sequence of SEQ ID NO: 1, or a degenerate variant of said endogenous variant.

2. A polynucleotide according to claim 1 further comprising a splice variant.

3. A polynucleotide encoding a β-amyloid peptide-binding (BBP) protein comprising a PXDGS motif beginning at amino acid 237.

4. A protein comprising the amino acid of SEQ ID NO: 2.

5. A protein comprising the amino acid of SEQ ID NO: 2 from amino acid 68 to amino acid 269.

6. A protein comprising the amino acid sequence encoded by the cDNA insert of clone BBP1-fl deposited under accession number ATCC 98617.

7. A protein comprising the amino acid sequence from amino acid 185 to amino acid 217 of SEQ ID NO: 2.

8. A fusion protein comprising a BBP1 linked to a heterologous protein or peptide sequence.

9. The fusion protein of claim 8 wherein the BBP1 has the amino acid sequence of SEQ ID NO: 2.

10. A method for determining a polynucleotide encoding a β-amyloid peptide-binding protein (BBP) in a sample comprising the steps of (a) hybridizing to a sample a probe specific for said polynucleotide under conditions effective for said probe to hybridize specifically to said polynucleotide; and (b) determining the

09530521.060901

hybridization of said probe to polynucleotides in the sample, wherein said probe comprises a nucleic acid sequence having a region of 20 or more base pairs at least 90% identical to the polynucleotide sequence of SEQ ID NO: 1.

11. A method for determining a polynucleotide encoding a β-amyloid peptide-binding protein (BBP) in a sample comprising the steps of (a) hybridizing to a sample a probe specific for said polynucleotide under conditions effective for said probe to hybridize specifically to said polynucleotide; and (b) determining the hybridization of said probe to polynucleotides in the sample, wherein said probe comprises a nucleic acid sequence having a region of 20 or more base pairs at least 90% identical to the polynucleotide sequence of the cDNA insert of ATCC 98617 or ATCC 98399.

12. An antibody that binds specifically to a polypeptide comprising the amino acid sequence of SEQ ID NO:1.

13. An antibody that binds specifically to a polypeptide comprising the amino acid sequence of the β-amyloid peptide binding protein encoded by the cDNA insert of ATCC 98617.

14. An antibody that binds to an extracellular region of a BBP.

15. An antibody according to claim 14 wherein the extracellular region comprises the PXDGS motif.

16. A method for detecting in a sample a polypeptide comprising a region at least 90% identical to the amino acid sequence of SEQ ID NO: 2, said method comprising (a) incubating with a sample a reagent that bind specifically to said polypeptide under conditions effective for specific binding; and (b) determining the binding of said reagent to said polypeptide in the sample.

17. A method for detecting in a sample a polypeptide comprising a region at least 90% identical in sequence to the amino acid sequence of the β-amyloid peptide binding protein encoded by the cDNA insert of ATCC 98617, said method comprising (a) incubating with a sample a reagent that bind specifically to said polypeptide under conditions effective for specific binding; and (b) determining the binding of said reagent to said polypeptide in the sample.

18. A method for diagnosing a disease characterized by aberrant expression of human β-amyloid peptide (BAP), comprising (a) incubating a sample indicative of the aberrant expression of human β-amyloid peptide with a reagent comprising a polypeptide comprising a region at least 90% identical to the amino acid sequence of SEQ ID NO: 2 under conditions effective for specific binding of said reagent to said human β-amyloid peptide; and (b) determining the binding of said reagent to said human β-amyloid peptide in the sample.

19. A method for diagnosing a disease characterized by aberrant expression of human β-amyloid peptide, comprising (a) incubating a sample indicative of the aberrant expression of human β-amyloid peptide with a reagent comprising a polypeptide comprising a region at least 90% identical to the amino acid sequence of the β-amyloid peptide binding protein encoded by the cDNA insert of ATCC 98617 under conditions effective for specific binding of said reagent to said human β-amyloid peptide; and (b) determining the binding of said reagent to said human β-amyloid peptide in the sample.

20. A diagnostic process comprising analyzing for the presence of a polynucleotide of claim 1 in a sample derived from a host.

21. A method for identifying compounds which regulate the activity of a β-amyloid peptide binding protein comprising (a) incubating a sample comprising human β-amyloid peptide in a test medium containing said test compound and a reagent comprising a polypeptide comprising a region at least 90% identical to the

EP 0 950 714 A2

amino acid sequence of SEQ ID NO: 2 under conditions effective for specific binding of said reagent to said human β-amyloid peptide; (b) comparing the binding of said reagent to said peptide in the sample in the presence and absence of said test compound; and (c) relating the difference between the binding in step (b) to the test compound regulating the activity of the β-amyloid peptide binding protein.

22. A method for identifying compounds which regulate the activity of a β-amyloid peptide binding protein comprising (a) incubating a sample comprising human β-amyloid peptide in a test medium containing said test compound and a reagent comprising a polypeptide comprising a region at least 90% identical to the amino acid sequence of the β-amyloid peptide binding protein encoded by the cDNA insert of ATCC 98617 under conditions effective for specific binding of said reagent to said human β-amyloid peptide; (b) comparing the binding of said reagent to said peptide in the sample in the presence and absence of said test compound; and (c) relating the difference between the binding in step (b) to the test compound regulating the activity of the β-amyloid peptide binding protein.

23. A method for the treatment of a patient having need to inhibit β-amyloid peptide accumulation in the brain comprising administering to the patient a therapeutically effective amount of BBP1.

24. A method for the treatment of a patient having need of such treatment comprising administering to the patient a therapeutically effective amount of an antibody which binds to an extracellular portion of BBP1.

25. A transgenic or chimeric nonhuman animal comprising the polynucleotide of SEQ ID NO: 1 or a degenerate variant of said polynucleotide.

26. The animal of claim 25 wherein the transgene is under the control of a regulatable expression system.

27. A knockout nonhuman animal wherein at least one allele of the BBP1 gene has been functionally disrupted.

28. A knockout nonhuman animal wherein at least one allele of the BBP1 gene can be functionally disrupted by the induction of the Cre gene.

29. A knockout according to claim 28 wherein the Cre gene is under the control of a tissue specific promoter.

30. A knockout according to claim 28 wherein the Cre gene is under the control of a developmentally specific promoter.

31. A knockout according to claim 28 wherein the Cre gene is under the control of an inducible promoter.

32. A method for inhibiting expression of the BBP1 gene comprising providing to a cell double stranded ribonucleic acid complementary to a portion of the BBP1 gene wherein said ribonucleic acid comprises about 600 base pairs.

33. A method of inhibiting expression of the BBP1 gene in a cell comprising providing said cell with an antisense nucleic acid.

09852100.050601